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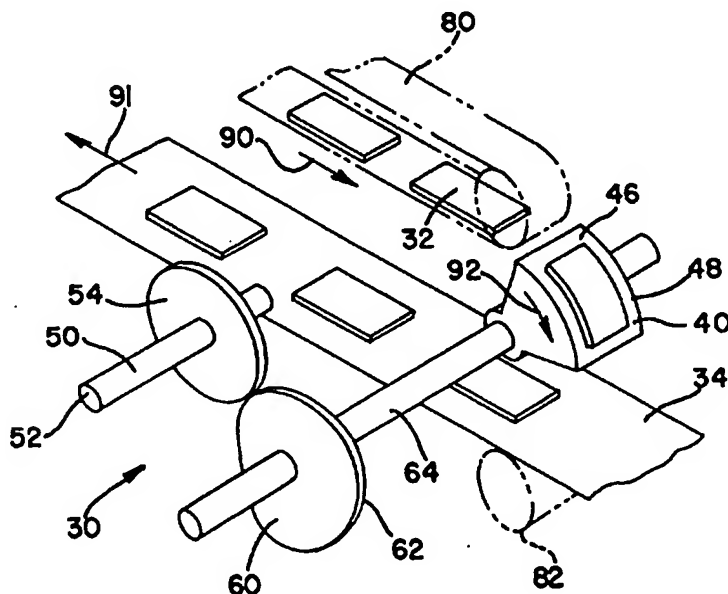
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(71) Applicant: KIMBERLY-CLARK CORPORATION [US/US]; 401 North Lake Street, Neenah, WI 54956 (US).		Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
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(74) Agents: CURTIN, Jeffrey, B. et al.; Kimberly-Clark Corporation, 401 North Lake Street, Neenah, WI 54956 (US).		(88) Date of publication of the international search report: 31 August 1995 (31.08.95)	

(54) Title: METHOD AND APPARATUS FOR PLACING DISCRETE PARTS ONTO A MOVING WEB

## (57) Abstract

A method and apparatus for receiving discrete parts (32) travelling at a first speed and applying the parts to a substrate web (34) travelling at a second speed includes at least one rotatable transferring mechanism (40), a driving mechanism (50) and at least one driven mechanism (60). The rotatable transferring mechanism (40) is connected to an output shaft and moves along an orbital path through a receiving zone (42) where the parts are received and an application zone (44) where the parts are applied to the substrate web (34). The driving mechanism (50) utilizes at least one rotatable noncircular drive gear connected to an input shaft to transmit rotational energy to the driven mechanism (60). The driven mechanism (60) utilizes at least one rotatable noncircular driven gear connected to the output shaft or to a jackshaft to accept the rotational energy from the driving mechanism (50) and transmit the energy to the transferring mechanism (40). The input shaft and output shaft or, in the alternative, jackshaft are offset such that the noncircular drive gear is configured to engage and rotate the noncircular driven gear which, in turn, rotates the rotatable transferring mechanism (40).



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# INTERNATIONAL SEARCH REPORT

Inter national Application No  
PCT/US 94/14933

A. CLASSIFICATION F SUBJECT MATTER  
IPC 6 A61F13/15 B65G47/84

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 A61F B65G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE-A-36 35 387 (KIMBERLY-CLARK CORP.) 23 April 1987 see abstract; claims; figures ---	1-20
A	EP-A-0 141 338 (PAUL HARTMANN AG.) 15 May 1985 cited in the application ---	
A	EP,A,0 304 044 (UNI-CHARM CORP.) 22 February 1989 -----	

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☒ Patent family members are listed in annex.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 94/14933

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-A-3635387	23-04-87	US-A- 4726876 JP-A- 62191314 SE-A- 8604409 US-A- 4767487	23-02-88 21-08-87 19-04-87 30-08-88
EP-A-0141338	15-05-85	DE-A- 3338306 DE-A- 3431910 US-A- 4610751	09-05-85 13-03-86 09-09-86
EP-A-0304044	22-02-89	JP-A- 1052801 AU-B- 613071 DE-D- 3853601 GB-A, B 2208878 US-A- 5091039	28-02-89 25-07-91 24-05-95 19-04-89 25-02-92